

Standard Detail & Specifications

Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES

Mix #	Species ⁵	Seeding Rate		Optimum Seeding Dates ¹ O = Optimum Planting Period; A = Acceptable Planting Period							Planting Depth ³
		lb/Ac ⁴	lb/1000 sq.ft.	Coastal Plain			Piedmont			All	
	Certified Seed			2/1-4/30	² 5/1-8/14	8/15-10/31	3/1-4/30	² 5/1-7/31	8/1-10/31	10/31-2/1	
1	Barley	125	4	O	A	O	O	A	O		1-2 inches 2-3" sandy soils
2	Oats	125	4	O	A	A	O	A	A		1-2 inches 2-3" sandy soils
3	Rye	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
4	Perennial Ryegrass	125	4	O	A	O	O	A	O		0.5 inches 1-2" sandy soils
5	Annual Ryegrass	125	4	O	A	O	O	A	O	A	0.5 inches 1-2" sandy soils
6	Winter Wheat	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
7	Foxtail Millet	30 PLS	0.7		O			O			0.5 inches 1-2" sandy soils
8	Pearl Millet	20 PLS	0.5		O			O			0.5 inches 1-2" sandy soils

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
5. Warm season grasses such as Millet may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source:

Delaware ESC Handbook

Symbol:

Detail No.

DE-ESC-3.4.3

Sheet 1 of 4

Effective July 2023

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PERMANENT SEEDING AND SEEDING DATES											
Seeding Mixtures		Seeding Rate ¹		Optimum Seeding Dates ² O = Optimum Planting Period A = Acceptable Planting Period						Remarks	
Mix No.	Certified Seed ³			Coastal Plain			Piedmont			All ⁴	
	Well Drained Soils	lb/Ac	lb/1000 sq.ft.	2/1-4/30	5/1-8/14	8/15-10/31	3/1-4/30	5/1-7/31	8/1-10/31	10/31-2/1	
1	Tall Fescue Canada Wild Rye	140 10	3.2 0.23	A	O	A	A	O	A	Add 100 lbs./ac Winter Rye	Good erosion control mix Tolerant of low fertility soils Good for droughty sites
2	Deertongue Sheep Fescue White Clover	30 30 10	0.69 0.69 0.35	A	O	A	A	O	A	Add 100 lbs./ac Winter Rye	Good erosion control mix Tolerant of low fertility soils Legume that fixes atmospheric N into soil
3	Tall Fescue (Turf-type) or Strong Creeping Red Fescue or Perennial Ryegrass plus Flatpea ⁵	50 50 50 15	1.15 1.15 1.15 0.34	O	A ⁴	O	O	A ⁴	O	Add 100 lbs./ac. Winter Rye	Good erosion control mix Tall Fescue for droughty conditions. Creeping Red Fescue for heavy shade. Flatpea to suppress woody vegetation.
4	Strong Creeping Red Fescue Kentucky Bluegrass Perennial Ryegrass or Redtop plus White Clover ⁵	100 70 15 5 3	2.3 1.61 0.35 0.11 0.07	O	A ⁴	O	O	A ⁴	O	Add 100 lbs./ac. Winter Rye	Suitable waterway mix. Canada Bluegrass more drought tolerant. Use Redtop for increased drought tolerance.
5	Switchgrass ^{6,7} or Coastal Panicgrass Big Bluestem Little Bluestem Indian Grass	10 10 5 5 5	0.23 0.23 0.11 0.11 0.1		O			O			Native warm-season mixture. Tolerant of low fertility soils. Drought tolerant. Poor shade tolerance. N fertilizer discouraged - weeds
6	Tall Fescue (turf-type) (Blend of 3 cultivars)	150	3.5	O	A ⁴	O	O	A ⁴	O		Managed filter strip for nutrient uptake.
7	Tall Fescue Ky. Bluegrass (Blend) Perennial Ryegrass	150 20 20	3.5 0.46 0.46	O	A ⁴	O	O	A ⁴	O		Three cultivars of Kentucky Bluegrass. Traffic tolerant.
8	Big Bluestem ⁷ Indian Grass ⁷ Little Bluestem ⁷ Creeping Red Fescue plus one of: Partridge Pea Bush Clover Wild Indigo Showy Tick-Trefoil	10 10 8 30 5 3 3 2	0.23 0.23 0.18 0.69 0.11 0.07 0.07 0.05	O	A ⁴		O	A ⁴			All species are native. Indian Grass and Bluestem have fluffy seeds. Plant with a specialized native seed drill. Creeping Red Fescue will provide erosion protection while the warm season grasses get established.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook	Symbol:	Detail No. DE-ESC-3.4.3 Sheet 2 of 4 Effective July 2023
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Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES (cont.)											
Seeding Mixtures		Seeding Rate ¹		Optimum Seeding Dates ² O = Optimum Planting Period A = Acceptable Planting Period						Remarks	
Mix No.	Certified Seed ³			Coastal Plain			Piedmont		All ⁴		
	Poorly Drained Soils	lb/Ac	lb/1000 sq.ft.	2/1-4/30	5/1-8/14	8/15-10/31	3/1-4/30	5/1-7/31	8/1-10/31	10/31-2/1	
9	Redtop Creeping Bentgrass Sheep Fescue Rough Bluegrass	75 35 30 45	1.72 0.8 0.69 1	O	A ⁴	O	O	A ⁴	O	Add 100 lbs./ac. Winter Rye	Quick stabilization of disturbed sites and waterways
10	Switchgrass ⁶	10	0.23	A		O	A		O		Good erosion control, wildlife cover and wetland revegetation.
Residential Lawns											
11	Tall Fescue Perennial Ryegrass Kentucky Bluegrass Blend	100 25 30	2.3 0.57 0.69	O	A ⁴	O	O	A ⁴	O		High value, high maintenance, light traffic, irrigation necessary. Well drained soils, full sun.
12	Tall Fescue Perennial Ryegrass Sheep Fescue	100 25 25	2.3 0.57 0.57	O	A ⁴	O	O	A ⁴	O		Moderate value, low maintenance, traffic tolerant
13	Creeping Red Fescue Chewings Fescue Rough Bluegrass Kentucky Bluegrass	50 50 20 20	1.15 1.15 0.4 0.4	O	A ⁴	O	O	A ⁴	O		Shade tolerant, moderate traffic tolerance, moderate maintenance.
14	Creeping Red Fescue Rough Bluegrass or Chewings Fescue	50 90	1.15 2.1	O	A ⁴	O	O	A ⁴	O		Shade tolerant, moisture tolerant.
15	K-31 Tall Fescue	150	3.5	O	A ⁴	O	O	A ⁴	O		Monoculture, but performs well alone in lawns. Discouraged.

- When hydroseeding is the chosen method of application, the total rate of seed should be increased by 25%.
- Winter seeding requires 3 tons per acre of straw mulch. Planting dates listed above are average for Delaware. These dates may require adjustment to reflect local conditions.
- All seed shall meet the minimum purity and minimum germination percentages recommended by the Delaware Department of Agriculture. The maximum % of weed seeds shall be in accordance with Chapter 15, Title 3 of the Delaware Code.
- Turf-type species may be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
- It is recommended that all leguminous seed be inoculated.
- Warm season grass mix and Switchgrass cannot be mowed more than 4 times per year.
- Warm season grasses require a soil temperature of at least 50 degrees in order to germinate and will remain dormant until then.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook	Symbol:	Detail No. DE-ESC-3.4.3 Sheet 3 of 4 Effective July 2023
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Construction Notes:

1. Site Preparation

- a. Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.
- b. Final grading and shaping is not necessary for temporary seedings.

2. Seedbed Preparation

It is important to prepare a good seedbed to ensure the success of establishing vegetation. The seedbed should be well prepared, loose, uniform, and free of large clods, rocks, and other objectionable material. The soil surface should not be compacted or crusted.

3. Soil Amendments

- a. Lime - Apply liming materials based on the recommendations of a **soil test** in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply dolomitic limestone at the rate of 1 to 2 tons per acre. Apply limestone uniformly and incorporate into the top 4 to 6 inches of soil.
- b. Fertilizer - Apply fertilizer based on the recommendations of a **soil test** in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply a formulation of 10-10-10 at the rate of 600 pounds per acre. Apply fertilizer uniformly and incorporate into the top 4 to 6 inches of soils.

4. Seeding

- a. For **temporary stabilization**, select a mixture from **Sheet 1**. For a **permanent stabilization**, select a mixture from **Sheet 2** or **Sheet 3** depending on the conditions. Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.
- b. Apply seed uniformly with a broadcast seeder, drill, cultipacker seeder or hydroseeder. All seed will be applied at the recommended rate and planting depth.
- c. Seed that has been broadcast should be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be done immediately and without interruption.

5. Mulching

All mulching shall be done in accordance with detail **DE-ESC-3.4.5**.

Source: Delaware ESC Handbook	Symbol:	Detail No. DE-ESC-3.4.3 Sheet 4 of 4 Effective July 2023
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